

Patent [19]

[11] Patent Number: 11207149

[45] Date of Patent: Aug. 03, 1999

[54] METAL CARRYING PHOTOCATALYST TYPE AIR PURIFIER

[21] Appl. No.: 10048496 JP10048496 JP

[22] Filed: Jan. 23, 1998

[51] Int. Cl.⁶ B01D05386 ; B01D05304; B01D05334; B01D05381; B01J03502**[57] ABSTRACT**

PROBLEM TO BE SOLVED: To attain putting a photocatalyst type air purifier into practical use on a domestic/industrial scale with respect to an air purifiers using a photocatalyst to decompose contaminant particles by remarkably increasing the decomposition efficiency thereof.

SOLUTION: In this air purifier, metal carrying photocatalyst fine particles 28 where metal superfine particles 26 of 10 nm or less particle size are carried on photocatalyst fine particles 24 by 100 or more per photocatalyst fine particle 24 is used, and adsorbing material on whose surface a lot of the metal carrying photocatalyst fine particles 28 are dispersed and fixed is assembled to an excitation light source or a fan. In this way, the purifying efficiency of the photocatalyst type air purifier which has not been put to practical use can be remarkably increased. By manifestation of quantum size effect and high density carrying effect of the metal superfine particles 26, the photocatalyst type air purifier can be put to practical use on a domestic/industrial scale. In this case, decomposable contaminant particles 22 include not only harmful organic material such as tobacco but also organic material unnecessary for environment, hydrogen sulfide, mold, and bacteria such as coli bacillus.
